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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,142	01/29/2002	John Lockwood	0023-0080	7384

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HARRITY & SNYDER, LLP
11240 WAPLES MILL ROAD
SUITE 300
FAIRFAX, VA 22030

EXAMINER	
TOATLEY, GREGORY J	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/058,142	LOCKWOOD ET AL.	
	Examiner	Art Unit	
	Gregory J. Toatley, Jr.	2836	

-- The MAILING DATE of this communication appears on the cover she t with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The examiner respectfully suggests that the Applicant carefully review the specification for idiomatic and grammatical errors, which may have inadvertently been overlooked.

Art Rejection Rationale

At the outset, the examiner notes that claims are to be given their broadest reasonable interpretation during prosecution. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); In re Prater, 415 F.2d 1393, 1404, 162 USPQ 541, 550 (CCPA 1969); In re Yamamoto, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir. 1984); Burlington Indus. V. Quigg, 822 F.2d 1581, 3 USPQ2d 1436 (Fed. Cir. 1987); In re Morris, 43 USPQ2d 1753, 1756 (Fed. Cir. 1997). In responding to this Office action, applicants are reminded of the requirements of 37 CFR §§ 1.111 and 1.119 that applicants specifically point out the specific distinctions believed to render the claims patentable over the references in presenting responsive arguments. See M.P.E.P. § 714.02. The support for any amendments made should also be specifically pointed out. See M.P.E.P. § 2163.06.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 11 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "very high" in claims 11 and 23 is a relative term that renders the claim indefinite. The term "very high" is not defined by the claim, the

specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The examiner will treat the claim on the basis of the phrase "very high" meaning "high".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> or
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 – 5, 7 – 9, 12, 13, 16 – 21, 24, 25, 27 – 31, 33, 46, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by the reference of Belopolsky (US 2003/0096537 A1, referred to as '537). The reference '537 discloses the claimed invention as follows:

Application 10/058142	Publication ('537)
1. A signal conductor, comprising: a first connector, a cable connected at a first end to the first connector; and a second connector connected to a second end of the cable, the second connector comprising: a signal processing element configured to process signals transmitted between the first and second connectors.	See the cable mentioned in paragraph 2, line 2 which inherently would have a connector attached to its end that terminates in the connection to a digital device Disclosed in paragraph 2, ;line 2 Adapter, 110, which includes the signal processing circuit found in fig. 5.
2. The signal conductor of claim 1, wherein the first connector connects to a network device and the second connector connects to a patch panel.	It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).
3. The signal conductor of claim 1, wherein the first connector	See claim 2

connects to a patch panel and the second connector connects to a network device.	
4. The signal conductor of claim 1, wherein the signal-processing element comprises: a pulse transformer configured to translate the signals between balanced signals and single ended signals.	See fig. 5, and para. 23.
5. The signal conductor of claim 4, wherein the signal processing element further comprises: a common mode choke configured to remove common mode noise from the balanced signals.	See fig. 5, and para. 23
7. The signal conductor of claim 1, wherein the cable comprises: a transmit cable configured to transmit signals from the first connector to the second connector, and a receive cable configured to transmit signals from the second connector to the first connector.	See fig. 5, and para. 23, once again the first connector (not shown) would be the terminal end of the cable that connected with the communication device and the second connector would be the connector (112) of the adapter (110).
8. The signal conductor of claim 7, wherein the signal processing element includes: a first pulse transformer configured to translate signals received from the transmit cable from first single ended signals to first balanced signals, and a second pulse transformer configured to translate signals from second balanced signals to second single ended signals for transmission to the receive cable.	An inherent function of the filtering circuit of fig. 5.
9 . The signal conductor of claim 8, wherein the signal processing element further includes: a first common mode choke configured to remove common mode noise from the first balanced signals, and a second common mode choke configured to remove common mode noise from the second balanced signals.	Fig. 5 and para. 23.
12. The signal conductor of claim 1, wherein the second connector includes a telephone company connector.	Connector 112
13. A network system, comprising: a network device configured to communicate signals on a network and a plurality of signal conductors connected to the network device, each of the signal conductors comprising: a first connector connected to the network device, a cable connected at a first end to the first connector, and a second connector connected to a second end of the cable, the second connector comprising: a signal processing element configured to process signals communicated with the network device.	The telephone mentioned in para. 8 See the cables 512 and 510 of fig. 5. The ends of the cable as mentioned in regard to claims 1 and 7, above. The connector, 112 of the adapter 110. See fig. 5 and para. 23
15. The network system of claim 13, wherein the second connector is configured to connect to a patch panel.	The connector 112 (disclosed to be any number of types of connectors related to communication systems, see para. 19 - 20) is adapted to be used with a patch panel.
16. The network system of claim 13, wherein the signal-processing element includes: a pulse transformer configured to convert the signals communicated with the network device between balanced signals and single ended signals.	An inherent function of the filtering circuit of fig. 5.
17. The network system of claim 16, wherein the signal-processing element further includes: a common mode choke configured to remove common mode nose from the balanced signals.	See fig. 5 and para. 23.
18. The network system of claim 13, wherein the cable comprises: a transmit cable configured to transmit signals from the first connector	See fig. 5.

to the second connector, and a receive cable configured to transmit signals from the second connector to the first connector.	
19. The network system of claim 18, wherein the signal processing element includes: a first pulse transformer configured to translate signals received from the transmit cable from first single ended signals to first balanced signals, and a second pulse transformer configured to translate signals from second balanced signals to second single ended signals for transmission to the receive cable.	An inherent function of the filtering circuit of fig. 5.
20. The network system of claim 19, wherein the signal processing element further includes: a first common mode choke configured to remove common mode noise from the first balanced signals and a second common mode choke configured to remove common mode noise from the second balanced signals.	An inherent function of the filtering circuit of fig. 5.
21. The network system of claim 20, wherein the first pulse transformer and the first common mode choke are located on a first side of the second connector and the second pulse transformer and the second common mode choke are located on a second side of the second connector.	See fig. 5.
24. The network system of claim 13, wherein the second connector includes a telephone company connector.	Connector 112
25. A network system, comprising: a network device configured to communicate signals on a network and a plurality of signal conductors connected to the network device, each of the signal conductors comprising: a first connector connected to the network device, the first connector comprising: a signal processing element configured to process signals communicated with the network device, a cable connected at a first end to the first connector, and a second connector connected to a second end of the cable.	See the rejection of claim 13.
26. The network system of claim 25, wherein the second connector is configured to connect to a patch panel.	The connector 112 (disclosed to be any number of types of connectors related to communication systems, see para. 19 - 20) is adapted to be used with a patch panel.
27. The network system of claim 25, wherein the signal-processing element includes: a pulse transformer configured to convert the signals between balanced signals and single ended signals.	See fig. 5 and para. 23
28. The network system of claim 27, wherein the signal-processing element further includes: a common mode choke configured to remove common mode nose from the balanced signals.	See fig. 5 and para. 23
29. The network system of claim 25, wherein the cable comprises: a transmit cable configured to transmit signals from the first connector to the second connector, and a receive cable configured to transmit signals from the second connector to the first connector.	See fig. 5 and para. 23
30. The network system of claim 29, wherein the signal processing element includes: a first pulse transformer configured to translate signals received from the transmit cable from first single ended signals to first balanced signals, and a second pulse transformer configured to translate signals from second balanced signals to second single ended signals for transmission to the receive cable.	See fig. 5 and para. 23

31. The network system of claim 30, wherein the signal processing element further includes: a first common mode choke configured to remove common mode noise from the first balanced signals, and a second common mode choke configured to remove common mode noise from the second balanced signals.	See fig. 5 and para. 23

6. Claim 33 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by the reference of Aekins (US 6057743 A, referred to as '743). The reference '743 discloses the claimed invention as follows:

Application 10/058142	Patent 6057743 A
33. A patch panel, comprising:	- Connector (10) is disclosed as being able to be a patch panel 4:3 – 7.
a plurality of first connectors, at least one of the first connectors being configured to connect to a network device via a cables;	- 11 – 14, fig. 1
a plurality of groups of second connectors, each of the groups of second connectors corresponding to one of the first connectors;	- 15 – 18, fig. 1
and a plurality of signal processing elements, each of the signal processing elements being configured to process signals transmitted between one of the first connectors and one of the groups of second connectors.	- 30(a – c), and 32(a – c), fig. 1

The means of claim 48 corresponds with the elements of claim 33 and are rejected with the same rationale.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 6, 22 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over the reference '537 as applied to claims 1, 13 and 15 above, and further in view of the reference of Criscolo et al. (US 6446138 B1, now "'138"). The reference '537 is silent regarding the use of shielded cable. The reference '138 teaches the use of shield cable with communication applications. It would have been obvious to one having ordinary skill in the art to incorporate the use of shielded cables into the invention of the reference '537 in order to protect the communication device the cable is attached to and the data that the cable will carry from EMI noise as is suggested in 3:65 – 4:6 of reference '138.

10. Claims 11 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over the reference '537 as applied to claims 1 and 15 above, and further in view of the Official Notice taken by the examiner. The reference '537 is silent regarding the type of connector to be used. The examiner wishes to take Official Notice of the fact that high density cable interconnect[ors] are known to be used with communication systems. It would have been obvious matter of design choice to one having ordinary skill in the art to use high density interconnectors with the communication cable of the reference '537, since the type of connector has not been disclosed as being significant and it appears that the system would

work with any type of connector that would match the device to which the cable was connected.

Regarding the network router as claimed in claim 14, the examiner wishes to take official notice of the fact that a router is well known communication device. It would have been obvious matter of design choice to one having ordinary skill in the art to use a router with the communication cable of the reference '537, since the type of communication device used with the cable is not disclosed as being significant and it appears that the system would work with any type of known digital communication device.

11. Claims 34, 35, 37 – 39, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference '743 in view of the reference '537. The reference '743 is silent regarding use of the specific elements and functions of the digital filter as claimed in claims 34, 35, 37 – 39 and 49. The reference '537 teaches of such a digital filter in fig. 5. It would have been obvious to one having ordinary skill in the art to use the filter of the reference '537 in the patch panel of '743 in order to provide a means fault protection and noise reduction as is suggested by the reference '537 in paragraph 23.

12. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references '743 and '537 as applied to claim 33 above, and further in view of the reference of Criscolo et al. (US 6446138 B1, now "'138"). The references '743 and '537 are silent regarding the use of shielded cable. The reference '138 teaches the use of shield cable with communication applications. It would have been obvious to one having ordinary skill in the art to incorporate the use of shielded cables into the invention of the reference '537 in order to protect the communication device the cable is attached to and the data that the cable will carry from EMI noise as is suggested in 3:65 – 4:6 of reference '138.

13. Claims 40, 41 and 43 – 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references of '743, '537 and the Official Notice of the examiner. The reference '743 discloses a patch panel with connection to a communication device with includes a signal filter see fig. 1. The reference is silent regarding a router being in communication with the panel. The examiner wishes to take official notice of the fact that a router is well known network communication device. It would have been obvious matter of design choice to one having ordinary skill in the art to use a router with the communication cable of the reference '743, since the type of communication device used with the cable is not disclosed as being significant and it appears that the system would work with any type of known digital communication device. The reference '743 is silent regarding use of the specific elements and functions of a digital filter as claimed in claims 40, 43 - 45. The reference '537 teaches of such a digital filter in fig. 5. It would have been obvious to one having ordinary skill in the art to use the filter of the reference '537 in the patch panel of '743 in order to provide a means fault protection and noise reduction as is suggested by the reference '537 in paragraph 23.

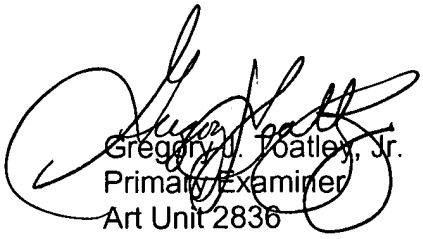
14. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references '743 and '537 as applied to claim 40 above, and further in view of the reference of Criscolo et al. (US 6446138 B1, now "'138"). The references '743 and '537 are silent regarding the use of shielded cable. The reference '138 teaches of the use of shield cable with communication applications. It would have been obvious to one having ordinary skill in the art to incorporate the use of shielded cables into the invention of the reference '743 modified by the teaching of the reference '537 in order to protect the communication device the cable is attached to and the data that the cable will carry from EMI noise as is suggested in 3:65 – 4:6 of reference '138.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Toatley, Jr. whose telephone number is (571) 272-2059. The examiner can normally be reached on Mon. - Fri. 7:00 a.m. to 3 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 ext. 36. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory J. Toatley, Jr.
Primary Examiner
Art Unit 2836

GJT Jr.